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EXAMINER

CHEN, SHIN HON

ART UNIT	PAPER NUMBER
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2131

DATE MAILED: 05/13/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/720,702

Applicant(s)

MANZ, EBERHARD

Examiner

Shin-Hon Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 3.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-41 have been examined.

Specification

2. The heading of the claim section should state "I/We Claim" or "What is Claimed is".

Appropriate correction is required.

Claim Objections

3. Claim 4 is objected to because of the following informalities: claim 32 contains a period before end of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 15 and 17-20 recites the limitation "the key" in line 1 of claim 15. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 6, 26, 32, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paetsch German Patent No. DE19629531 (hereinafter Paetsch) in view of Piosenka et al. U.S. Pat. No. 4993068 (hereinafter Piosenka).

8. As per claim 1 and 32, Paetsch discloses a method for proving the pedigree and/or for the identification of animals or of biological material from animals and organisms (Paetsch: page 1 lines 4-20), which comprises the following steps: storing on a data carrier identification data in the form of an message which has an unambiguous and predetermined connection with genetic information unambiguously identifying an animal or the biological material (Paetsch: page 1 lines 17-20). Paetsch does not explicitly disclose the message is encrypted and verifying the identification data with respect to whether said data have the predetermined connection with the genetic information. However, Piosenka discloses verifying encrypted identification with respect to said data having predetermined connection with the genetic information (Piosenka: column 2 line 61 – column 3 line 8). It would have been obvious to one having ordinary skill in the art to combine the teachings of Piosenka within the system of Paetsch because identification method applies to human beings can very well be used for animals and biometric information is directly in connection with genetic information, which is well known in the art.

9. As per claim 2, Paetsch as modified discloses a method according to claim 1. Paetsch as modified further discloses the method comprising the step of storing predetermined genetic information of one or more animals or of biological material from one or more animals or

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organisms as reference datasets on a storage medium (Piosenka: column 1 lines 55 – column 2 line 9).

10. As per claim 6, Paetsch as modified discloses a method according to claim 1. Paetsch as modified further discloses wherein an encrypted message comprises genetic information unambiguously identifying the animal or the material (Piosenka: column 2 line 61 – column 3 line 8). Same rationale applies here as above in rejecting claim 1.

11. As per claim 26, Paetsch as modified discloses a method according to claim 1. Paetsch as modified further discloses wherein the data carrier containing the data related to the animal or the material comprises a portion of a central computer (Piosenka: column 1 line 55 – column 2 line 9).

12. As per claim 41, Paetsch as modified discloses a computer system for carrying out a method according to claim 1. Paetsch as modified further discloses the computer system comprising a central computer having a data carrier which holds identification data which have an unambiguous and predetermined connection with genetic information unambiguously identifying an animal or the biological material (Piosenka: column 1 line 55 – column 2 line 9).

13. Claims 3, 7, 27, 29, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paetsch in view of Piosenka and further in view of Sehr U.S. Pat. Pub. 20010018660 (hereinafter Sehr).

14. As per claim 3, Paetsch as modified discloses a method according to Claim 1. Paetsch as modified does not explicitly disclose wherein the data carrier holds further data which have been assigned to the identification data and which relate to the animal to be identified or the biological material to be identified. However, Sehr discloses smart card contains biometric identification of cardholders, as well as cryptographic certification of card data and database information (Sehr: abstract and [0037] and [0066]-[0072]). It would have been obvious to one having ordinary skill in the art to combine the teachings of Sehr within the combination of Paetsch-Piosenka because it increases security by storing identification data in a different storage area so that it cannot be easily tampered with.

15. As per claim 7, Paetsch as modified discloses a method according to claim 3. Paetsch as modified further discloses wherein the identification data comprise encrypted data which relate to the storage location and/or the contents of further data which relate to the animal assigned to the identification data (Sehr: abstract and [0037] and [0066]-[0072]).

16. As per claim 27, Paetsch as modified discloses a method according to Claim 26. Paetsch as modified does not explicitly disclose the method further discloses wherein at least in part the data are access-protected and that access authorization is different for different users of the central computer. However, Sehr discloses that limitation (Sehr: [0078]). It would have been obvious to one having ordinary skill in the art to combine the teachings of Sehr within the

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combination of Paetsch-Piosenka because it enhances security of the centralized computer because it requires unique personal data to access the database.

17. As per claim 29, Paetsch as modified discloses a method according to claim 26. Paetsch as modified does not explicitly disclose wherein access to at least part of the stored data is only possible, if the computer has verified access authorization using the data stored on a chip, in particular on a smartcard. However, Sehr discloses that limitation (Sehr: [0078]). It is well known in the art to authenticate a user's identity before access is granted. Therefore, it would have been obvious to one having ordinary skill in the art to combine the teachings of Paetsch within the combination of Paetsch-Piosenka.

18. As per claim 30, Paetsch as modified discloses a method according to claim 26. Paetsch as modified does not explicitly disclose wherein the computer is set up such that users can write to the stored data related to the animal or the material only together with a digital signature of the user. However, Sehr discloses that limitation (Sehr: [0005] and [0078]). It is well known in the art to incorporate digital signature for authentication purpose. Therefore, it would have been obvious to one having ordinary skill in the art to combine the teachings of Sehr within the combination of Paetsch-Piosenka.

19. Claims 4, 5, 8- 17, and 33-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paetsch in view of Piosenka and further in view of Tomko et al. U.S. Pat. No. 5712912 (hereinafter Tomko).

20. As per claim 4 and 33, Paetsch as modified discloses a method according to claims 1 and 32 respectively. Paetsch does not explicitly disclose further discloses wherein the identification data contain an encrypted message which has been encrypted using a code unambiguously assigned to the individual animal or material. However, Tomko discloses using biometric information input by the user to decrypt information required to access data (Tomko: column 1 line 57 – column 3 line 3). It would have been obvious to one having ordinary skill in the art to use unique code assigned to the individual animal or material to encrypt data stored within a smartcard for authentication. Therefore, it would have been obvious to one having ordinary skill in the art to combine the teachings of Tomko within the combination of Paetsch-Piosenka because it is well known in the art to use PIN as encrypting key to authenticate.

21. As per claim 5 and 34, Paetsch as modified discloses a method according to claims 4 and 33 respectively. Paetsch as modified further discloses wherein the encrypted message contains the value of a one-way function (hash), which value is obtained when applying said one-way function to further data which are stored on the data carrier and which relate to the animal to be identified or the biological material to be identified (Piosenka: column 3 lines 28-43). It is well known in the art to use one-way function to enforce security.

22. As per claim 8 and 35, Paetsch discloses a method according to claims 4 and 32 respectively. Paetsch further discloses wherein the identification data comprise a message encrypted by a code which is generated in a predetermined unambiguous manner on the basis of

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a sequence of digits which has been unambiguously assigned to genetic information unambiguously identifying the animal or the material (Tomko: column 1 line 57 – column 3 line 3). It would have been obvious to one having ordinary skill in the art to combine the teachings of Tomko within the combination of Paetsch-Piosenka because it increases security by applying unique value such biometric information to encrypt information. Biometric information is directly in connection with genetic and it uniquely identifies each individual animal or human.

23. As per claim 9, Paetsch as modified discloses a method according to Claim 8. Paetsch further discloses wherein the sequence of digits forms at least part of the code (Tomko: column 1 lines 57 – column 3 line 3).

24. As per claim 10 and 36, Paetsch as modified discloses a method according to Claims 4 and 35 respectively. Paetsch as modified further discloses wherein the message has been encrypted using a symmetric key (Tomko: column 2 line 66 – column 3 line 3). Symmetric key algorithm is well known in the art to protect security information.

25. As per claim 11 and 37, Paetsch as modified discloses a method according to claims 4 and 35 respectively. Paetsch as modified further discloses wherein the message has been encrypted on the basis of the private key of an asymmetric pair of keys, with the public key at least in part having a predetermined relationship to the genetic information identifying the animal or the material (Tomko: column 1 line 57 – column 3 line 3).

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26. As per claim 12, Paetsch as modified discloses a method according to claim 11. Paetsch as modified further discloses wherein the public key comprises a part specific for the animal or the material and a user-specific part (Tomko: column 1 line 57 – column 3 line 3).

27. As per claim 13, Paetsch as modified discloses a method according to claim 8. Paetsch as modified does not explicitly disclose wherein the identification data are additionally encrypted using a user-specific key. However, Paetsch as modified further discloses encrypting PIN, which is used to encrypt information stored on smartcard (Tomko: column 2 line 65 – column 3 line 3). Although Paetsch as modified does not explicitly disclose applying double encryption to the identification data, but Paetsch as modified disclose key encrypting key, which is used to increase security of encrypted data. Therefore, it would have been an obvious matter of design choice to modified the reference to use key to encrypt the encrypted identification data since applicant does not explicitly disclose using key to encrypt encrypted data solves any stated problem or for any particular purpose and it appears that using the key to encrypt another key would perform equally well.

28. As per claim 14, Paetsch as modified discloses a method according to claim 4. Paetsch as modified further discloses wherein the data on the data carrier, which have been assigned to the identification data, have at least in part been encrypted by a code which is different than the code used for encrypting the identification data (Tomko: column 1 line 57 – column 3 line 3).

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29. As per claim 15, Paetsch as modified discloses a method according to claim 4. Paetsch as modified further discloses wherein the key for decrypting the message contained in the identification data is stored on a carrier of a chip for communicating with a data processing system via an interface, in particular on a smartcard (Paetsch: column 1 line 57 – column 3 line 3).

30. As per claim 16, Paetsch as modified discloses a method according to Claim 15. Paetsch as modified further discloses wherein the chip has a device for decrypting messages (Tomko: column 1 line 57 – column 3 line 3).

31. As per claim 17, Paetsch as modified discloses a method according to Claim 15. Paetsch as modified discloses wherein the key encoding the message of the identification data is an asymmetric key, the corresponding private key is stored on the chip and the chip has a device for encrypting messages using the private key (Tomko: column 1 line 57 – column 3 line 3).

32. Claims 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paetsch in view of Piosenka and further in view of Tomko and further in view of Sehr.

33. As per claim 18. Paetsch as modified discloses a method according to claim 15. Paetsch as modified does not explicitly disclose wherein the chip contains an interface for entering digitized genetic information and a device for verifying the assignment of the stored code to entered digitized genetic information. However, Sehr discloses that limitation (Sehr: [0078]).

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Therefore, it would have been obvious to one having ordinary skill in the art to combine the teachings of Sehr within the combination of Paetsch-Piosenka-Tomko because it is well known in the art to authenticate the identity of a user by comparing information in a card with information inputted by the user.

34. As per claim 19, Paetsch as modified discloses a method according to claim 18. Paetsch as modified further discloses wherein the verifying device compares the entered digitized genetic information with a stored value for this information and emits an output signal which indicates whether or not there is a match (Sehr: [0078]).

35. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paetsch in view of Piosenka and further in view of Tomko and further in view of Sehr and further in view of Sehr U.S. Pat. No. 6085976 (hereinafter Sehr2).

36. As per claim 20, Paetsch as modified discloses a method according to Claim 18. Paetsch as modified does not explicitly disclose wherein, based on the entered digitized genetic information and a stored assignment to the stored key of digitized genetic information unambiguously identifying the animal or the material, the verifying device determines a key assigned to the entered information, compares the key determined in this way with the stored key and releases an output signal which indicates whether or not the key determined based on the input matches the stored key. However, Sehr2 discloses comparing security key generated by user input with a stored key to authenticate (Sehr2: column 29 lines 15-28). It would have been

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obvious to one having ordinary skill in the art to combine the teachings of Sehr2 within the combination of Paetsch-Piosenka-Tomko-Sehr because it increases security by checking whether the key used for encrypting the data is correct before attempting to decrypt the encrypted data.

37. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paetsch in view of Piosenka and further in view of Tomko and further in view of Sehr2 and further in view of Deutsch et al. U.S. Pat. No. 6615194 (hereinafter Deutsch).

38. As per claim 21, Paetsch as modified discloses a method according to claim 15. Paetsch as modified does not explicitly disclose wherein the chip holds information identifying one or more users and the decrypting device or encrypting device is only activated when information stored for identifying a user is entered via an input device. However, Sehr2 discloses that limitation (Sehr2: column 29 lines 15-28). It would have been obvious to one having ordinary skill in the art to combine the teachings of Sehr2 within the combination of Paetsch-Piosenka-Tomko because it increases security by checking whether the key used for encrypting the data is correct before attempting to decrypt the encrypted data.

Paetsch as modified does not explicitly disclose the chip holds information identifying one or more users. However, Deutsch discloses that limitation (Deutsch: column 5 lines 27-39). It would have been obvious to one having ordinary skill in the art to combine the teachings of Deutsch within the combination of Paetsch-Piosenka-Tomko-Sehr2 because it allows the multiple users to share a single card without compromising the integrity.

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39. Claims 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paetsch in view of Piosenka and further in view of Tomko and further in view of Tomko U.S. Pat. No. 5790668 (hereinafter Tomko2).

40. As per claim 22, Paetsch as modified discloses a method according to claim 4. Paetsch as modified does not explicitly disclose wherein the code for decrypting coded information contained in the identification data is stored on a central computer. However, Tomko2 discloses that limitation (Tomko2: column 1 lines 36-54: encrypted decryption key from database). It would have been obvious to one having ordinary skill in the art to combine the teachings of Paetsch-Piosenka-Tomko because it increases security by storing encrypted decryption key in a remote location to prevent ill-minded user from tampering the key.

41. As per claim 23, Paetsch as modified discloses a method according to Claim 22. Paetsch as modified further discloses wherein the computer determines the corresponding key owing to entered or predetermined genetic information and applies said key to the identification data (Tomko2: column 36-54).

42. As per claim 24, Paetsch as modified discloses a method according to Claim 23. Paetsch as modified further discloses wherein after decrypting, the central computer verifies whether predetermined sequences of characters are present in the decrypted text and releases a corresponding output signal to a user (Piosenka: column 1 line 55 – column 2 line 9; column 8 lines 48-67).

43. As per claim 25, Paetsch as modified discloses a method according to Claim 23. Paetsch as modified further discloses wherein the information stored on the data carrier and, where appropriate, predetermined genetic information unambiguously identifying the animal or the material are transferred to the central computer (Piosenka: column 1 line 55 – column 2 line 9).

44. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paetsch in view of Piosenka and further in view of Ueno et al. U.S. Pat. No. 5991811 (hereinafter Ueno).

45. As per claim 28, Paetsch as modified discloses a method according to Claim 26. Paetsch as modified does not explicitly disclose wherein a proportion of users can access at least part of the stored data only, if a predetermined further user is logged on to the central computer at the same time. However, Ueno discloses there is a limit to simultaneous access to a server (Ueno: column 18 lines 33-40). It would have been obvious to one having ordinary skill in the art to set an limit to simultaneous access to a server/database when after the user has been authenticated. Therefore, it would have been obvious to one having ordinary skill in the art to combine the teachings of Ueno within the combination of Paetsch-Piosenka because it reduces the burden of the server by limiting simultaneous access, which is well known in the art.

46. Claims 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paetsch in view of Piosenka and further in view of Tomka and further in view of Sudia U.S. Pat. No. 6009177 (hereinafter Sudia).

47. As per claim 31, Paetsch as modified discloses a method according to claim 26. Paetsch as modified does not explicitly disclose wherein an animal-specific pair of asymmetric keys is used for exchanging a session key for communication of a user with the central computer.

However, Tomka discloses biometric information is used as asymmetric keys to encrypt information stored on a smartcard (Tomka: column 1 line 57 – column 3 line 3). It would have been obvious to one having ordinary skill in the art to combine the teachings of Tomka within the combination of Paetsch-Piosenka because it is well known in the art to use asymmetric key algorithm for identification.

Paetsch as modified further discloses applying centralized database for authentication (Piosenka: column 1 line 55 – column 2 line 9) as described in claim 26. However, Paetsch as modified does not explicitly disclose using a asymmetric key as session key to communicate between the centralized database and access control point. However, Sudia discloses using asymmetric key for communication session between computers (Sudia: column 2 lines 21-46). It would have been obvious to one having ordinary skill in the art to combine the teachings of Sudia within the combination of Paetsch-Piosenka because it increases network security by using asymmetric session key.

48. Claims 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paetsch in view of Tomka.

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49. As per claim 38, Paetsch discloses a chip carrier for identifying animals (Paetsch: page 1 lines 4-20). Paetsch does not explicitly disclose said chip carrier being set up for communication between a chip on the chip carrier and a computer via an interface, in particular a smartcard, wherein the chip holds a key which has an unambiguous and predetermined connection with genetic information specific for the individual animal. However, Tomka discloses smartcard having biometric information generated PIN is used to access information in another system or decrypt information on a smartcard (Tomka: column 1 line 57 – column 3 line 3). It would have been obvious to one having ordinary skill in the art to authenticate a user before allowing access to the information stored within a smartcard. It would have been obvious to one having ordinary skill in the art to combine the teachings of Tomka within the system of Paetsch because it is well known in the art to authenticate a user before access is granted.

50. As per claim 39, Paetsch as modified discloses a chip carrier according to Claim 38. Paetsch as modified further discloses wherein the chip has a processor for decrypting messages using the stored key (Tomka: column 2 line 66 – column 3 line 3).

51. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Paetsch in view of Tomka and further in view of Sehr2.

52. As per claim 40, Paetsch as modified discloses a chip carrier according to claim 38. Paetsch as modified does not explicitly disclose wherein the chip contains an interface for entering digitized genetic information and a device for verifying the assignment of the stored

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code to entered digitized genetic information. However, Sehr2 discloses that limitation (Sehr2: column 29 lines 15-29). It would have been obvious to one having ordinary skill in the art to combine the teachings of Sehr2 within the combination of Paetsch-Tomka because it increases security by authenticating the key required for decryption before decrypting the data.

Conclusion

53. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Postma et al. European Pat. No. 0941655 discloses biometric information comprises iris, retina, the DNA, etc. (column 2 lines 18-22).

Osaki et al. Japanese Pat. No. 10151125 discloses using DNA recorded on a card to authenticate.

Chen et al. U.S. Pat. No. 6594471 discloses using PIN to authenticate a card.

Soutar et al. U.S. Pat. No. 6219794 discloses using biometric data to generate a PIN.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shin-Hon Chen whose telephone number is (703) 305-8654. The examiner can normally be reached on Monday through Friday 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (703) 305-9648. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Shin-Hon Chen
Examiner
Art Unit 2131

SC


AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
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